



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

SERIAL NUMBER	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/057,662	05/04/93	WEST J	12199C2

MILLER, EXAMINER

B5M1/0824
WATTS, HOFFMANN, FISHER & HEINKE CO.
SUITE 2850
100 ERIEVIEW PLAZA
CLEVELAND, OH 44114-1824

ART UNIT	PAPER NUMBER
2515	7

DATE MAILED: 08/24/94

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

☒ This application has been examined ☐ Responsive to communication filed on _____ ☐ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), 0 days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- ☒ Notice of References Cited by Examiner, PTO-892.
- ☒ Notice re Patent Drawing, PTO-948.
- ☒ Notice of Art Cited by Applicant, PTO-1449.
- ☐ Notice of Informal Patent Application, Form PTO-152.
- ☐ Information on How to Effect Drawing Changes, PTO-1474.
- ☐

Part II SUMMARY OF ACTION

- ☒ Claims 1-17 are pending in the application.
Of the above, claims _____ are withdrawn from consideration.
- ☐ Claims _____ have been cancelled.
- ☐ Claims _____ are allowed.
- ☒ Claims 1-17 are rejected.
- ☐ Claims _____ are objected to.
- ☐ Claims _____ are subject to restriction or election requirement.
- ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
- ☐ Formal drawings are required in response to this Office action.
- ☐ The corrected or substitute drawings have been received on _____. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable. ☐ not acceptable (see explanation or Notice re Patent Drawing, PTO-948).
- ☐ The proposed additional or substitute sheet(s) of drawings, filed on _____ has (have) been ☐ approved by the examiner. ☐ disapproved by the examiner (see explanation).
- ☐ The proposed drawing correction, filed on _____, has been ☐ approved; ☐ disapproved (see explanation).
- ☐ Acknowledgment is made of the claim for priority under U.S.C. 119. The certified copy has: ☐ been received ☐ not been received
☐ been filed in parent application, serial no. _____; filed on _____
- ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
- ☐ Other

EXAMINER'S ACTION

Serial Number: 08/057,662

-2-

Art Unit: 2515

The oath or declaration is defective. A new oath or declaration in compliance with 37 C.F.R. § 1.67(a) identifying this application by its Serial Number and filing date is required. See M.P.E.P. §§ 602.01 and 602.02.

The oath or declaration is defective because:
It claims the benefit of U.S. serial No. 07/964,840. The specification states that the current application is a continuation in part of U.S. serial No. 07/694,840. The specification also states that the current application is a continuation in part of U.S. serial No. 07/885,154, which is not included on the declaration. Therefore, the declaration is objected to because of the inaccuracies in the continuing information.

The drawings are objected to because on the last line of page 17 the applicant refers to item 50 in figure 3. There is no item 50 in figure 3. Correction is required.

Claim 11 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The A.C. pulses referred to in claim 11 lack an antecedent basis.

The following is a quotation of the first paragraph of 35 U.S.C. § 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using

Art Unit: 2515

it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification is objected to under 35 U.S.C. § 112, first paragraph, as failing to adequately teach how to make and/or use the invention, i.e. failing to provide an enabling disclosure.

On page 3, lines 21-29, the applicant states that the liquid crystal material will remain in an intermediate state indefinitely. Tsukamoto et al disclose a similar device driven by rectangular voltage pulses. In column 2, lines 25-30, they describe using a cholesteric liquid crystal with positive dielectric anisotropy consisting of nematic liquid crystal and a chiral material in amounts that include the range used by the applicant and recited in claims 6 and 7. In column 3, lines 28-30, they state that the cell gap is between a few micrometers and a few tens micrometers which encompasses the 10 μ m thickness used by the applicant in the examples of Table I on page 13. Tsukamoto et al show, in figure 2, that the amplitude of the a.c. voltage applied between the first and second electrodes determines the optical transmission of the cell. In column 4, lines 26-39, Tsukamoto et al state that an a.c. bias is necessary to maintain the cell in a given state and if the a.c. bias is absent, the optical transmission will decay. Since the

Art Unit: 2515

structure of the device disclosed by Tsukamoto et al is the same as the structure of the device disclosed by the applicant, one of ordinary skill in the art would expect the two devices to operate in a similar manner. Therefore, one of ordinary skill would expect the transmission of Applicant's device to decay since Applicant discloses nothing additional which would make his device remain in a given state indefinitely. Applicant fails to teach how to make or use the device such that the states are "stable" as claimed. Therefore, the specification is objected to for failing to provide an enabling disclosure.

Claims 1-17 are rejected under 35 U.S.C. § 112, first paragraph, for the reasons set forth in the objection to the specification.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,6-15 and 17 are rejected under 35 U.S.C. § 102(b) as being anticipated by Tsukamoto et al as described above. As stated previously, Tsukamoto et al disclose a device with the same structure as the device claimed. In figures 4A and 4B, Tsukamoto et al show driving the device with square A.C. voltage pulses as recited in claims 10 and 11. Since the structure of

Art Unit: 2515

the device of Tsukamoto et al is the same as the device claimed, one of ordinary skill in the art would expect the functional operation to be the same.

The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

Claims 2,3 and 16 are rejected under 35 U.S.C. § 103 as being unpatentable over Tsukamoto et al as applied to claims 1,6-15 and 17 above. Tsukamoto et al has been discussed above. Regarding claims 2 and 3, one of ordinary skill in the art would expect the pitch length of the liquid crystal in the device of Tsukamoto et al to be the same as claimed in claims 2 and 3 since the composition of the nematic liquid crystal and chiral material is the same. While Tsukamoto et al do not explicitly discuss the use of a cell wall treatment, as recited in claim 16, it is conventional to have such a treatment to align the liquid crystal

Serial Number: 08/057,662

-6-

Art Unit: 2515

which is necessary for a twisted nematic liquid crystal display to function.

Claims 4 and 5 are rejected under 35 U.S.C. § 103 as being unpatentable over Tsukamoto et al as applied to claims 1-3 and 6-17 above, and further in view of Iwasaki. Tsukamoto et al has been discussed above. Tsukamoto et al differ from the claimed invention in that they do not indicate the value of the dielectric anisotropy. Iwasaki teaches that a dielectric constant anisotropy ≥ 16 , which overlaps the ranges in claims 4 and 5, permits long-term maintenance of a light transmission state without impairing contrast in a nematic-cholesteric transmission type liquid crystal display. For these reasons, it would have been obvious to use a nematic liquid crystal material with a dielectric constant anisotropy ≥ 16 in the device of Tsukamoto et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Miller whose telephone number is (703) 305-6202.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0956.

Anita Pellman Gross

ANITA PELLMAN GROSS
PRIMARY EXAMINER
GROUP 2500

C.M.
Charles Miller
August 19, 1994